

Dates of first light and heavy frosts and snow—Continued.

State and station.	First frost.			State and station.	First frost.						
	Light.	Heavy.	Snow.		Light.	Heavy.	Snow.				
<i>Missouri—Cont'd.</i>											
Bluffton			3	<i>New Jersey—Cont'd.</i>							
Boonville			2	Camden			3				
Darksville			3	Cape May C. H.			1				
East Lynne			2	Dover			3				
Enuma			3	Friesburg			3				
Fayette			2	Gillette			4				
Fulton			3	Hightstown			3				
Gayoso			30	Inlaystown			2				
Glasgow			2	Newton			2				
Grove Dale			3	Oceanic			4				
Half Way			2	Pensauken			3				
Harrisonville			2	Readington			3				
Hastain			3	River Vale			3				
Hermann			2	Tenaft			3				
Houston			3	Vir-land			5				
Ironton			2	Wating			6				
La Plata			2	Woodbine			6				
Lebanon			2	<i>New Mexico.</i>							
Linn Creek			2	Albert			5				
Marceline			2	East Las Vegas			29				
Mine La Motte			2	Gallinas Spring			1				
New Haven			2	<i>New York.</i>							
New Madrid			3	New York			3				
New Palestine			2	Poughkeepsie			3				
Oak Ridge			2	Setauket			3				
Olden			2	<i>North Carolina.</i>							
Phillipsburg			3	Asheville			18				
Potosi			3	Chapel Hill			5				
Panacea			3	Charlotte			7				
Rolla			2	Horse Cove			2				
Round Spring			3	Lenoir			2				
Saint Charles			3	May			5				
Sarcozie			2	Mount Pleasant			5				
Steelville			2	Oak Ridge			5				
Vanclave			2	Pittsboro			5				
Virgil City			2	Rockingham			5				
Warrenton			3	Salisbury			5				
<i>Nevada.</i>											
Battle Mountain			13	Saxon			5				
<i>New Hampshire.</i>											
Durham			3	Shou			5				
<i>New Jersey.</i>											
Asbury Park			4	Smithfield			5				
Atlantic City			4	Soapstone Mount.			5				
Belvidere			5	Southern Pines			5				
Blairstown			3	Washington			31				
Bridgeton			5	<i>Ohio.</i>							
				Bloomington			2				
				Cadiz			18				
				Caledonia			2				
				Cherry Fork			2				

Dates of first light and heavy frosts and snow—Continued.

State and station.	First frost.			State and station.	First frost.						
	Light.	Heavy.	Snow.		Light.	Heavy.	Snow.				
<i>Ohio—Cont'd.</i>											
Circleville			3	<i>South Carolina—Cont'd.</i>							
Frankfort			1	Corona			5				
Granville			1	Flint Hill			5				
Greenfield			2	Society Hill			5				
Guyssville			17	Tatum Station			4				
Hackney			2	Tillers Ferry			4				
Jacksonboro			9	Wateree			5				
Mountville			3	<i>Tennessee.</i>							
New Paris			2	Ashwood			30				
North Royalton			1	Byrdstown			17				
Ripley			2	Charleston			18				
Rush Creek			3	Chatanooga			3				
Sharon Center			2	Clarksville			3				
Sidney			1	Florence			3				
Thurman			2	Franklin			2				
Vanceburg			2	Greenville			3				
Walnut			4	Hohenwald			3				
Waynesville			2	Knoxville			17				
Wooster			3	Lynnville			3				
<i>Oklahoma.</i>											
Burnett			1	Memphis			30				
Fort Reno			1	Nashville			3				
Oklahoma			2	Newport			16				
Ponca			3	Nunnely			17				
<i>Oregon.</i>											
Ashland			13	Rogersville			3				
Williams			14	Rugby			3				
<i>Pennsylvania.</i>											
Bloomington			3	Springdale			17				
Brooksville			2	Trenton			3				
Confluence			2	Wier			2				
Saltsburg			3	<i>Texas.</i>							
South Eaton			1	Brazoria			4				
<i>Rhode Island.</i>											
Block Island			3	Brenham			7				
Bristol			3	Burnet			7				
Kingston			3	Corpus Christi			7				
Lonsdale			3	Devine			7				
Narragansett Pier			3	Hallettsville			5				
Newport			3	Llano			7				
Pawtucket			3	New Braunfels			4				
Providence			3	Orange			4				
<i>South Carolina.</i>											
Blenheim			2	San Marcos			7				
Camden			5	<i>Utah.</i>							
Cheraw			5	Richfield			15				
Columbia			5	Saint George			24				
			5	<i>Virginia.</i>							
			5	Big Stone Gap			16				
			5	Blacksburg			17				
			5	Danville			5				
			5	Warsaw			6				

PRECIPITATION (expressed in inches and hundredths).

The distribution of precipitation over the United States and Canada for December, 1893, as determined by reports from about 2,000 stations, is exhibited on Chart III. In the meteorological tables the total precipitation is given for each station; the departures from the normal are given for regular stations of the Weather Bureau in the table of climatological data. The figures opposite the names of the geographical districts in the columns for precipitation and departure from the normal show, respectively, the averages for the several districts. The normal for any district may be found by adding the departure to the current mean when the precipitation is below the normal and subtracting when above.

NORMAL PRECIPITATION.

In December the monthly precipitation is usually greatest on the north Pacific coast, where it exceeds 10.00; the normal amount exceeds 8.00 along the Pacific coast north of the 38th parallel, in parts of northeastern California, and in a small area of northeastern Louisiana; and exceeds 4.00 from the middle and east Gulf coasts to the middle Ohio valley, along the immediate Atlantic coast from North Carolina to southern New England, and over Nova Scotia and southeastern Maine. Except in parts of the northern plateau region, the monthly precipitation is less than 1.00 over the greater part of the Rocky Mountain and plateau regions, and thence over Kansas, Nebraska, the Dakotas, and Minnesota.

PRECIPITATION FOR DECEMBER, 1893.

In December, 1893, the monthly precipitation exceeded 10.00 at a few points only in eastern Oregon and Washington,

and also at Halifax, N. S.; it was between 4.00 and 6.00 on the western slope of the Rocky Mountains, from northern California to Vancouver Island, and over a portion of Michigan, New York, and New England. It was generally less than 2.00 from the Mississippi Valley westward, and less than 0.5 was reported from Texas, New Mexico, and Arizona.

DEPARTURES FROM NORMAL PRECIPITATION.

The precipitation for December was slightly in excess of the normal in New England, the Lake region, the Dakotas, and northward throughout the Canadian Provinces. It was generally deficient throughout the United States south of latitude 42°. The principal deficits were: 3.5 at Kittyhawk, N. C., and Mobile, Ala.; 3.0 at San Francisco, Cal., and Roseburg, Ore.; 3.6 at Portland, Ore.; 2.9 at Galveston, Tex.; 2.7 at Montgomery, Ala. The principal excesses were: 4.6 at Nantucket, Mass.; 5.0 at Halifax, N. S.; 3.6 at Marquette, Mich.; 2.1 at Olympia, Wash.; 2.8 at Edmonton, Alberta; 3.3 at Yarmouth, N. S.

Considered by districts the monthly precipitation for December, 1893, when compared with the normal for the month, furnishes the following percentages (the precipitation is in excess when the percentage of the normal exceeds 100): Extreme northwest, 182; upper lake region, 150; New England, 140; lower lake region, 114; north Pacific coast, 98; south Atlantic states, 84; middle Atlantic states, 82; northern slope, 82; south Pacific coast, 82; Ohio Valley and Tennessee, 75; Missouri Valley, 75; upper Mississippi valley, 71; southern plateau, 71; Key West, Fla., 63; northern

plateau, 59; middle Pacific coast, 58; middle plateau, 56; east Gulf states, 53; southern slope, 43; middle slope, 42; west Gulf states, 37.

The following table shows for certain stations, as reported by voluntary observers, (1) the average precipitation for December for a series of years; (2) the length of record during which the observations have been taken and from which the average has been computed; (3) the total precipitation for December, 1893; (4) the departure of the current month from the average; (5) the extremes for December and the years of occurrence during the period of observation:

State and station.	(1) Average for the month of Dec.	(2) Length of record.	(3) Total for Dec., 1893.	(4) Departure from average.	(5) Extremes for December.			
					Greatest.		Least.	
					Am't.	Year.	Am't.	Year.
<i>Arizona.</i>	<i>Inches.</i>	<i>Years.</i>	<i>Inches.</i>	<i>Inches.</i>	<i>Inches.</i>	<i>Year.</i>	<i>Inches.</i>	<i>Year.</i>
Fort Apache	1.65	17	0.10	- 1.55	5.52	1884	0.08	1882
Fort Mohave	1.37	19	0.10	- 1.55	11.17	1889	0.00	1889
Whipple Barracks	1.79	21	0.73	- 1.06	7.38	1889	0.00	1889
<i>Arkansas.</i>								
Keesees Ferry	3.28	12	2.20	- 1.08	11.37	1884	1.15	1889
<i>California.</i>								
Riverside	1.99	13	2.07	+ 0.08	6.87	1889	0.17	1886
<i>Colorado.</i>								
Las Animas	0.42	11	0.50	+ 0.08	1.68	1883	0.00	1889
<i>Florida.</i>								
Merritts Island	2.46	15	2.42	- 0.04	8.55	1888	0.00	1889
<i>Georgia.</i>								
Forsyth	4.37	19	2.20	- 2.17	7.56	1887	0.79	1889
<i>Idaho.</i>								
Boise Barracks	2.18	20	0.48	- 1.70	5.96	1871	0.01	1877
Fort Sherman	3.34	10	4.50	+ 1.16	5.85	1889	1.48	1885
<i>Indiana.</i>								
Lafayette	2.52	13	3.05	+ 0.53	6.27	1884	0.23	1890
<i>Iowa.</i>								
Cresco	1.41	22	1.15	- 0.26	3.44	1891	0.30	1874
<i>Kansas.</i>								
Independence	2.21	21	0.49	- 1.72	5.17	1879	0.49	1893
<i>Louisiana.</i>								
Grand Coteau	5.25	10	4.70	- 0.55	14.43	1884	2.27	1890
<i>Maine.</i>								
Orono	3.91	23	4.21	+ 0.30	7.92	1878	1.50	1875
<i>Maryland.</i>								
Cumberland	2.23	22	0.80	- 1.43	4.50	1881	0.70	1871
<i>Michigan.</i>								
Kalamazoo	2.76	17	2.79	+ 0.03	7.14	1884	1.35	1890
<i>Missouri.</i>								
Sedalia	2.01	15	0.87	- 1.14	4.77	1884	0.53	1886
<i>Montana.</i>								
Fort Custer	0.84	13	0.20	- 0.64	1.87	1883	0.09	1885
<i>Nebraska.</i>								
Fort Robinson	0.69	10	1.05	+ 0.36	1.97	1883	0.01	1890
Genoa (near)	0.83	18	2.04	+ 1.21	2.04	1893	0.00	1875, '90
<i>Nevada.</i>								
Browns	0.51	21	0.24	- 0.27	2.01	1871	0.00	1872, '76
Carson City	2.21	16	0.24	- 1.97	5.43	1891	0.00	1876
<i>New Hampshire.</i>								
Hanover	2.50	22	3.59	+ 1.09	4.69	1878	0.78	1875
<i>New Mexico.</i>								
Deming	0.40	9	0.70	- 0.30	1.35	1884	0.00	1886, '89
Fort Wingate	0.93	22	0.15	- 0.78	2.29	1871	0.70	1886
<i>New York.</i>								
Cooperstown	2.64	22	4.02	+ 1.38	6.02	1881	0.97	1877
Plattsburg Barracks	1.87	23	3.92	+ 2.05	3.92	1893	0.17	1886
<i>North Carolina.</i>								
Lenoir	3.60	19	1.20	- 2.40	8.70	1877	0.50	1889
<i>Oklahoma.</i>								
Fort Reno	1.42	10	1.46	+ 0.04	4.40	1892	0.00	1886
Fort Sill	1.67	21	2.77	+ 1.10	4.07	1874	0.00	1889
Fort Supply	0.75	13	0.50	- 0.25	3.19	1885	0.00	1886, '89
<i>Oregon.</i>								
Bandon	11.56	15	10.86	- 0.70	17.17	1892	4.93	1878
<i>Pennsylvania.</i>								
Dyberry	2.75	22	3.32	+ 0.57	5.29	1890	1.20	1874
Grampian	3.59	16	4.10	+ 0.51	5.15	1891	1.36	1892
Wellboro	4.35	14	4.21	- 0.14	9.57	1881	0.40	1892
<i>South Carolina.</i>								
Statesburg	2.82	12	3.81	+ 0.99	5.87	1884	0.75	1889
<i>South Dakota.</i>								
Fort Sully	0.48	22	0.55	+ 0.07	2.48	1877	0.00	1881
<i>Texas.</i>								
Austin	3.13	20	0.02	- 3.11	9.00	1891	0.02	1893
Silver Falls	0.66	6	1.00	+ 0.34	2.03	1891	0.00	1889
<i>Utah.</i>								
Terrace	0.75	20	0.47	- 0.28	2.12	1877	0.00	1874, '78
<i>Vermont.</i>								
Strafford	3.18	20	5.30	+ 2.12	5.90	1878	0.15	1875
<i>Virginia.</i>								
Dale Enterprise	2.79	13	0.54	- 2.25	6.81	1881	0.13	1882
<i>Washington.</i>								
Fort Townsend	2.80	19	3.24	+ 0.44	5.34	1891	1.14	1879
<i>West Virginia.</i>								
Parkersburg	2.05	8	2.21	+ 0.16	4.20	1890	0.02	1885
<i>Wisconsin.</i>								
Madison	1.99	21	1.68	- 0.31	5.73	1884	0.45	1874
<i>Wyoming.</i>								
Fort Washakie	0.49	10	0.37	- 0.12	2.29	1886	0.00	1890

* Frequently.

PRECIPITATION, JANUARY TO DECEMBER.

For the period January to December, 1893, inclusive, the total precipitation was in excess of the normal by about 15 per cent over the Rocky Mountain plateau regions; it was deficient by 30 and 40 per cent on the southern slope, the Gulf States, and at Key West. In detail the precipitation for the current year, as compared with the normal for this period, furnishes the following percentages (the precipitation is in excess when the percentages of the normal exceed 100): Northern plateau, 123; north Pacific coast, 119; southern plateau, 119; middle Atlantic states, 97; middle plateau, 97; middle Pacific coast, 96; Ohio Valley and Tennessee, 94; lower lake region, 94; extreme northwest, 94; New England, 92; upper lake region, 92; south Atlantic states, 91; upper Mississippi valley, 88; Missouri Valley, 86; east Gulf states, 82; northern slope, 78; southern Pacific coast, 78; west Gulf states, 70; southern slope, 67; middle slope, 62; Key West, Fla., 55.

YEARS OF GREATEST PRECIPITATION FOR DECEMBER.

The precipitation for the current month does not seem to have exceeded the previous record at any of the regular stations of the Weather Bureau.

The greatest precipitation for December occurred generally over the plateau regions in 1889; in the middle and lower Mississippi valleys, the lower Ohio valley, and upper lake region in 1884; on the northern slope of the Rocky Mountains and in the central valleys of California in 1880; in the middle Ohio valley and Tennessee in 1879; over the greater part of New York and New England in 1878; and along the Carolina coast in 1877.

YEARS OF LEAST PRECIPITATION FOR DECEMBER.

The precipitation for the current month does not seem to have fallen below the previous record at any of the regular stations of the Weather Bureau.

The least precipitation for December occurred generally in the Gulf and middle and south Atlantic states, Kentucky, and Tennessee in 1889; in the lower lake region in 1874; and in the Lake Michigan region in 1872.

EXCESSIVE PRECIPITATION.

The following tables for December, 1893, show, by states, the number of stations reporting total precipitation to equal or exceed 10.00 inches during the month; 2.50 in 24 hours, and 1.00 in 1 hour:

Monthly precipitation to equal or exceed 10.00.

State.	Number of stations.	State.	Number of stations.
Washington	7	Oregon	3
California	3		

Precipitation to equal or exceed 2.50 in 24 hours.

State.	Number of stations.	Dates.	State.	Number of stations.	Dates.
California	12	1, 22, 25, 26, 26-27, 27.	Oregon	2	1.
Mississippi	6	29.	Tennessee	2	2-3, 3.
Alabama	5	27, 28-29, 29, 29-30.	Colorado	1	2.
Florida	5	16, 29-30, 30-31, 31.	Indiana	1	2.
Georgia	5	29-30, 30, 30-31.	Kentucky	1	2-3.
Louisiana	4	24-25, 29, 30.	Maine	1	16.
North Carolina	3	16.	Massachusetts	1	3-4.
			Minnesota	1	23-24.

Precipitation to equal or exceed 1.00 in 1 hour.

State.	Number of stations.	Dates.	State.	Number of stations.	Dates.
Louisiana	3	12, 13.	Mississippi	1	29.
Arkansas	1	15.	Texas	1	24.

Table of excessive precipitation, December, 1893.

State and station.	Monthly rainfall in inches, or more.	Rainfall 2.50 inches, or more, in 24 hours.		Rainfall 1 inch, or more, in one hour.		
		Amt.	Day.	Amt.	Time.	Day.
Alabama.						
Brewton	Inches.	3.00	27			
Greensboro		2.53	28-29			
Livingston b		3.49	29-30			
Marion		2.78	29-30			
Pushmataha		2.92	29			
Arkansas.						
Blanchard				1-14	1 00	15
California.						
Arcata		3.21	1			
Crescent City	10-14	4.28	1			
Crescent City Lighthouse	10-81					
Deep Creek		2.60	27			
Glendora		2.74	26			
Gormans Station		4.00	26-27			
Green Valley		3.58	27			
Hendersons Ranch		4.00	26-27			
Little Bear Valley		3.39	27			
Little Bear Valley (near)		2.50	25			
Do		3.70	27			
Morses House	14-73	9.75	27			
Squirrel Inn		5.18	27			
Upper Mattole		3.00	22			
Colorado.						
Climax		3.00	2			
Florida.						
Archer		3.05	31			
Clermont		4.35	31			
Eustis		2.75	31			
Lake City		2.80	16			
Do		3.69	30-31			
Tallahassee		3.76	29-30			
Georgia.						
Alapaha		3.98	30-31			
Houerville		3.22	30			
McArthur		4.11	30			
Piscola		3.00	29-30			
Poulan		3.94	29-30			
Indiana.						
Marengo		2.50	2			
Kentucky.						
Franklin		3.22	2-3			
Louisiana.						
Abbeville		2.50	29			
Coushatta b		2.60	24-25			
Hamburg		3.82	29			
New Orleans				1.00	0 45	12
Opelousas		2.62	30			
Sugar Experimental Station				1.26	0 30	12
Wallace				2.10	2 00	13
Maine.						
Calais		2.56	16			
Massachusetts.						
Lawrence		2.96	3-4			
Minnesota.						
Wabasha		2.60	23-24			
Mississippi.						
Briers		2.90	29			
Canton		2.80	29			
Crystal Springs		3.75	29			
Enterprise		2.82	29			
Fayette		3.50	29			
Meridian		3.27	29	1.00	1 00	29
Missouri.						
Brunswick		2.95	2			
North Carolina.						
Lewiston		3.05	16			
May		2.64	16			
Weldon		3.05	16			
Oregon.						
Astoria	12-55					
Bandon	10-36	2.49	1			
Cascade Locks	13-37					
Williams		2.66	1			
Tennessee.						
Florence Station		2.58	2-3			
Riddleton		3.00	3			
Texas.						
Palestine				1.03	1 00	24
Washington.						
Aberdeen	12-18					
East Clallam	11-59					
Elbe	11-16					
Neah Bay	17-46					
Pysht	10-45					
Tatoosh Island	14-28					
Union City	11-86					
Wisconsin.						
Eau Claire		3.40	24			

Received too late for publication in November, 1893.

State and station.	Monthly rainfall in inches, or more.	Rainfall 2.50 inches, or more, in 24 hours.	Rainfall 1 inch, or more, in one hour.
		Amt. Day.	Amt. Time. Day.
California.			
Morses House		2.60 18-19	
Redding b		3.50 26	
Squirrel Inn		5.00 18-19	

MAXIMUM RAINFALL IN ONE HOUR OR LESS.

The following table is a record of the heaviest rainfall during December, 1893, for periods of five and ten minutes and one hour, as reported by regular stations of the Weather Bureau furnished with self-registering rain gauges. This record refers strictly to rainfall; the frequent interruptions of the self-registers, due to snow, explain the numerous cases of incomplete record.

Maximum rainfall in one hour or less.

Station.	Maximum rainfall in—					
	5 min.	Date.	10 min.	Date.	1 hour.	Date.
	Inch.		Inch.		Inch.	
Atlanta, Ga	0.27	3	0.30	3	0.40	16
Baltimore, Md.	0.15	16	0.20	16	0.35	16
Boston, Mass.*	0.13	16	0.18	16	0.37	16
Buffalo, N. Y.*	0.05	22	0.10	22	0.16	22
Cincinnati, Ohio	0.04	3	0.07	3	0.30	3
Cleveland, Ohio*	0.02	15	0.03	15	0.11	15
Eastport, Me.*	0.04	3	0.08	3	0.36	3
Galveston, Tex.	0.15	3	0.22	3	0.31	25
Indianapolis, Ind.	0.06	14	0.10	14	0.29	14
Jacksonville, Fla.	0.11	31	0.13	31	0.35	31
Jupiter, Fla.*	0.15	4, 21	0.25	4	0.40	21
Key West, Fla.	0.15	16	0.18	16	0.34	16
Memphis, Tenn.	0.15	15	0.25	15	0.55	15
Nantucket, Mass.	0.11	4	0.20	4	0.40	4
New Orleans, La.	0.30	12	0.50	12	1.00	12
New York, N. Y.*	0.02	16	0.04	16	0.17	16
Norfolk, Va.	0.03	5	0.05	5	0.24	5
Olympia, Wash.*	0.03	10	0.05	10	0.25	12
Philadelphia, Pa.*	0.03	3	0.06	3	0.17	3
Portland, Oregon	0.03	21	0.06	21	0.19	20
Rochester, N. Y.*	0.02	15	0.04	15	0.18	15
Saint Louis, Mo.*	0.18	15	0.20	15	0.31	15
Salt Lake City, Utah*	0.05	2	0.09	2	0.28	1-2
San Diego, Cal.	0.07	27	0.10	27	0.32	27
San Francisco, Cal.	0.07	14	0.11	14	0.31	21
Savannah, Ga.	0.11	16	0.15	16	0.32	5
Vicksburg, Miss.*	0.26	15	0.41	15	0.98	15-16
Washington, D. C.*	0.10	16	0.16	16	0.36	16
Wilmington, N. C.*	0.13	16	0.15	16	0.46	16

* Record incomplete. † Self-register out of order. ‡ Less than 0.05 in 1 hour.

The following tables show the number of years for which monthly precipitation to equal or exceed 10.00 inches, daily precipitation to equal or exceed 2.50 inches, and hourly precipitation to equal or exceed 1.00 inch has been reported in the several states and territories for December during the last 24 years:

Excessive monthly precipitation.

State.	No. years noted.	State.	No. years noted.
Washington	18	Connecticut	0
California	15	The Dakotas	0
Oregon	12	Delaware	0
Texas	8	District of Columbia	0
North Carolina	6	Idaho	0
Louisiana	6	Illinois	0
Florida	4	Indian Territory	0
Mississippi	3	Iowa	0
Arkansas	3	Kansas	0
Georgia	2	Maine	0
New York	2	Maryland	0
Tennessee	2	Minnesota	0
Alabama	1	Montana	0
Arizona	1	Nebraska	0
Indiana	1	New Mexico	0
Kentucky	1	Ohio	0
Massachusetts	1	Pennsylvania	0
Michigan	1	Rhode Island	0
Missouri	1	South Carolina	0
Nevada	1	Utah	0
New Hampshire	1	Vermont	0
New Jersey	1	West Virginia	0
Virginia	1	Wisconsin	0
Colorado	1	Wyoming	0

Excessive daily precipitation (24 hours).

California	16	Virginia	8
Texas	13	Washington	8
Louisiana	13	Indiana	8
North Carolina	12	Illinois	6
Georgia	11	Ohio	6
Alabama	11	Pennsylvania	6
Florida	11	South Carolina	6
Oregon	11	Kentucky	6
Tennessee	11	Arkansas	5
Mississippi	11	Maryland	5

Excessive daily precipitation—Continued.

Table with 4 columns: State, No. years noted, State, No. years noted. Lists states like New York, Massachusetts, Maine, etc., with their respective precipitation frequency.

Excessive daily precipitation—Continued.

Table with 6 columns: Station and state, Amount, Date, Station and state, Amount, Date. Lists stations like Bandon, Oregon; Fort Meade, Fla.; Farmerville, La., etc., with precipitation amounts and dates.

Excessive hourly precipitation.

Table with 4 columns: State, No. years noted, State, No. years noted. Lists states like Texas, California, Louisiana, etc., with their respective hourly precipitation frequency.

One hour and less.

Table with 6 columns: Station and state, Amount, Time, Date. Lists stations like New Orleans, La.; Tampa, Fla.; New Orleans, La., etc., with precipitation amounts and times.

The following tables give exceptionally heavy monthly, daily, and hourly precipitation reported for December during the last 24 years :

Monthly.

Table with 6 columns: Station and state, Am't., Year, Station and state, Am't., Year. Lists stations like San Andreas, Cal.; Georgetown, Cal.; Grass Valley, Cal., etc., with monthly precipitation amounts and years.

Daily (24 hours).

Table with 6 columns: Station and state, Amount, Date, Station and state, Amount, Date. Lists stations like Upper Mattole, Cal.; Point Pleasant, La.; College Station, Tex., etc., with daily precipitation amounts and dates.

MONTHLY SNOWFALL.

The depth of snow that fell during the month of December, as reported by both regular and voluntary observers, is shown by the lines and figures on Chart VI, which also gives, by the full line, the limit at which minimum temperatures of 32° F. were at any time reported at the regular Weather Bureau stations; by the dotted line is given a similar limit for 40°.

DEPTH OF SNOW ON GROUND.

The depth of unmelted snow lying on the ground at 8 p. m. Monday of each week during the winter season is shown by a series of weekly maps published by the Weather Bureau, beginning with Monday, December 4, 1893, based upon telegraphic reports received from a comparatively few selected stations.

On Monday, December 1, 12 inches lay over Upper Michigan, the northern portion of Lower Michigan, and the Canadian shores on the north side of lakes Huron and Superior; there were also 12 inches in central Iowa; the line of zero passed from Nova Scotia southwest through New York, N. Y., Harrisburg and Pittsburg, Pa., Cincinnati, Ohio, Saint Louis and Kansas City, Mo., Valentine, Nebr., Fort Buford, N. Dak., Havre and Helena, Mont., and Spokane, Wash.

On Monday, December 11, 25 inches lay in Upper Michigan near Sault Ste. Marie, 15 inches in central Iowa, and 9 inches in western Maine; the line of zero passed from the coast of Nova Scotia to the coast of Connecticut through central Pennsylvania, northern Ohio, Indiana, Illinois, Missouri, eastern Kansas, the northern border of Wyoming, and western Montana.

On Monday, December 18, 40 inches lay near Marquette, Mich., and 9 inches in northern Vermont, New Hampshire, and western Maine, and the zero line passed from Nova Scotia southwest to Cape Cod, northern Pennsylvania, central Ohio, northern Illinois, Missouri, eastern Nebraska, and the central portion of Montana.

On Monday, December 25, 6 inches or more of snow covered northern New England. The southern limit of snow passed from northeastern Massachusetts to northern New York, thence through central Michigan and northern Illinois westward to northern Colorado and Nevada, being considerably farther south than the week previous. Ten inches or more of snow lay on the ground at the Straits of Mackinaw, central and northern Wisconsin, and the upper Peninsula of Michigan. Thirty-seven inches were reported at Marquette, Mich., and 23 at Sault Ste. Marie, Mich.

On Monday, January 1, 38 inches were reported at Marquette, Mich., 26 at Sault Ste. Marie, Mich., 12 at Green Bay, Wis., and 11 at Portland, Me. The zero snow line had moved southward over New York, southern New England, and southern Michigan.

The accompanying chart, No. VII, gives the depth, in inches, of snow lying on the ground on December 31 at several hundred stations, selected from among many hundred that report the presence of more or less snow. The irregularities of local distribution are so great that it seems hardly practicable to draw lines of equal snow depth, and yet an attempt has been made to indicate the zone where a trace of snow is still left on the ground. The line of 5-inch depth has also been drawn through regions where reports are sufficiently numerous to indicate that the general average depth is not less than that amount. The maximum depths on the ground are: Climax, Colo., 65; Belfast and Calais, Me., 30; Easton, Me., 36; Calumet, Mich., 39; Marquette, Mich., 37; Berlin Mills, N. H., 19; Butternut, Wis., 30.

The accompanying table of total snowfall shows also the depth of snow on the ground on the 15th and 31st of the month:

Snowfall of 10 inches or more, December, 1893, with amounts on ground on the 15th and at the close of the month.

State and station.	Total.	15th.	31st.	State and station.	Total.	15th.	31st.
<i>Arizona.</i>				<i>Connecticut.</i>			
Flagstaff	15.0			Bridgeport	12.4	4.3	0.8
<i>California.</i>				Canton	15.0	9.0	1.5
Boca	16.0			Colchester	22.0	15.0	2.0
Cisco	44.0			Falls Village	16.5	5.0	2.0
Deep Creek	22.0			Greenfield Hill	13.0	4.8	1.8
Ednanton	27.0	13.0	10.0	Hartford b	17.0	7.0	2.0
Georgetown	16.0		T.	Lelanon	22.0	10.0	1.5
Gorman Station	20.0			Middletown	15.8	9.0	2.0
Green Valley	42.1			New Hartford a	17.0	3.0	10.0
Hendersons Ranch	21.0			New Haven	13.6	5.6	1.3
Little Bear Valley	35.5			New London	13.6	4.6	2.9
Little Bear Valley (near)	32.5			North Grosvenor Dale	15.0		2.0
Lower Holcomb Valley	25.8			Norwalk b	11.0	4.0	1.5
Morris House	45.0			Southington	14.5		
Squirrel Inn	30.0			South Manchester	17.0	7.0	2.0
Summit	60.0			Storrs	13.5		
Tehachapi a	21.0			Voluntown	20.0		
Tehachapi b	17.0	0.0	4.0	Wallingford	11.5		
Towles	17.0			Waterbury	15.0		2.0
Truckee	17.0			West Simsbury	16.0	8.0	1.0
Tunnel No. 2	21.5			<i>Idaho.</i>			
<i>Colorado.</i>				Fort Lemhi	11.0	3.5	
Breckenridge	85.2	48.0	36.0	Garden Valley	12.0		
Byers	10.5			Kootenai	14.0		
Climax	78.5	60.0	65.0	Lake	33.5		
Collbran	21.0	3.2	8.0	Murray	22.0		
Como (near)	15.0	1.0	1.0	<i>Illinois.</i>			
Glenwood Springs	18.0	3.0	2.5	Aurora b	13.5	0.0	0.0
Gold Hill	7.5	8.0	10.0	Chicago	12.1	T.	0.0
Lay	12.8	2.0	5.0	East Peoria	18.0	0.0	0.0
Pagoda (near)	17.0	4.0	7.0	Galva	13.5	T.	0.0
Paonia	13.0	0.0	5.0	Monmouth	13.0	0.0	0.0
Pikes Peak	28.2	T.	T.	Oswego	16.0	0.0	0.0
Rico	15.3			Ottawa	11.0	2.0	T.
River Bend	12.0			Peoria b	10.0	0.0	0.0
San Luis	10.1			Rantoul	10.4	0.0	0.0
Scissors	12.0	0.0	4.0	Rockford	17.5	0.0	0.0
Stainford	10.5			Sycamore	10.0	5.0	0.0
Steamboat Spring	37.5	12.0	22.0	Walnut	11.5	0.0	0.0
Surface Creek	11.7	2.0	2.0	<i>Indiana.</i>			
T. S. Ranch	11.0			Angola	20.4		10.0
Twin Lakes	42.0			Delhi	10.5	T.	T.

Snowfall of 10 inches or more—Continued.

State and station.	Total.	15th.	31st.	State and station.	Total.	15th.	31st.
<i>Indiana—Cont'd.</i>				<i>Michigan—Cont'd.</i>			
Hawpatch	15.0	0.0	0.0	Charlevoix	33.4		
Huntington	12.8	2.0	T.	Cheboygan	35.0	20.0	24.0
Logansport a	11.2	0.0	0.0	Clinton	18.3	0.0	0.5
Logansport b	10.0	0.0	0.0	Crystal Falls	30.5	22.0	
South Bend	22.5	0.0	0.5	Detroit	16.6	1.0	T.
Valparaiso	11.0	0.0	0.0	Escanaba	14.6		
<i>Iowa.</i>				Fitchburg	27.5	0.0	1.0
Carroll	12.5	4.0	0.0	Flint	15.7	0.0	0.0
Cedar Rapids	15.4	6.5	T.	Gaylord	66.5	42.0	16.0
Des Moines	11.9	5.8	T.	Grand Haven	18.9	2.0	1.0
Greenfield	15.4	3.0	0.0	Grand Rapids	27.4	6.0	1.5
Iowa City	11.8	3.0	0.0	Grape	14.5	0.0	0.5
Keosauqua	10.5	0.0	0.0	Grayling	31.1	0.0	0.1
Muscatine	13.1	0.0	0.0	Hanover	16.2	0.0	T.
Newton	12.0	6.0	0.0	Harbor Springs	43.0	34.0	23.0
Richland	14.8	4.0	0.0	Harrison	14.0	14.0	1.0
Seymour	14.5	1.5	0.0	Harrisville	38.5		
Pipton	13.5	10.0		Hastings	25.0		
West Bend	12.6	2.8	0.0	Highland Station	10.0		
<i>Maine.</i>				Howell	15.8	5.0	T.
Bar Harbor	33.6	12.0	7.0	Jeddo	12.5	T.	0.5
Belfast	41.0	15.0	30.0	Kalamazoo	23.5	0.0	0.2
Calais	49.0	20.0	30.0	Lake City	39.0	24.0	6.0
Cornish	27.0			Lansing	17.5	0.0	0.0
East Machias	24.0	8.0	3.0	Lathrop	38.5	20.0	24.0
Easton	48.0	15.0	36.0	Lewiston	22.0	22.0	11.0
Eastport	21.5	0.5	1.8	Lodi	28.0	10.0	14.0
Fairfield	28.0	12.0	14.0	Madison	13.5	2.0	0.3
Farmington	35.0	(?)		Marquette	58.5	35.1	37.4
Fort Kent	10.0			Mayville	16.0		
Gardiner	31.5	15.0	16.0	Mio		24.0	10.0
Houlton	34.7			Mottville	13.9	5.0	0.5
Indian Stream	18.5	11.0	19.0	Olivet	30.5	6.0	0.0
Lewiston	35.2	(?)	(?)	Parkville	16.0	0.0	1.0
North Bridgeton	26.5	13.0	14.0	Port Huron	14.4	0.0	0.7
Orono	34.5			Rockland	40.5	38.0	
Portland	30.3	14.6	11.3	Saint Ignace	29.8	16.0	16.0
<i>Massachusetts.</i>				Sand Beach	10.0		
Amherst	16.0			Sault Ste. Marie	26.4	29.3	23.5
Amherst Ex. Station a	15.2	8.0	4.0	Thornville	19.0	7.0	0.0
Amherst Ex. Station b	14.8		3.0	Vandalia	22.0	3.0	1.5
Bedford	14.2	12.0	2.0	Williamston	15.0	0.0	1.0
Beverly Farms	21.0	11.0	5.0	Ypsilanti	16.7	1.0	0.3
Blue Hill	20.6	4.0	5.0	<i>Minnesota.</i>			
Boston (W. B.)	18.5	6.7	3.2	Ada	15.0	23.0	26.0
Boston (V. O.)	12.5			Alexandria a	11.8	4.0	11.0
Cambridge		10.0	9.0	Alexandria b	12.0	8.0	14.0
Chestnut Hill	16.0	6.0	2.5	Belle Plaine	10.5	6.0	7.0
Concord a	19.2			Caledonia	7.3	10.0	T.
Dudley	10.8	4.2	0.8	Cambridge	15.5	7.0	15.0
East Templeton	15.5	5.2	2.0	Camden	8.0	4.0	12.0
Fall River a	19.0	8.0	4.0	Clear Lake	18.0		
Fitchburg a	17.0	8.0	3.0	Clearwater	9.6	2.6	11.8
Fitchburg b	15.5	8.0	2.0	Crookston a	11.6		
Gilbertville	20.0	7.0	2.0	Collegeville		9.0	16.0
Groton a	16.0	10.0	4.0	Cromwell	9.0	5.0	18.0
Hingham	16.5			Dassel	14.0	12.0	14.0
Kendall Green	14.0			Dawson	10.9	4.4	10.0
Lawrence	19.0	8.0	5.0	Duluth	20.5	12.0	4.5
Leeds	15.0	8.0	5.0	Farmington	17.2	16.0	10.0
Leominster	13.5	8.0	1.5	Fort Ripley	12.0		
Ludlow Center	14.2	5.0	2.0	Grand Meadow	11.0	6.0	1.0
Mansfield	17.5	6.0	3.0	Granite Falls	10.0	2.0	10.0
Middleboro	14.0	4.5	3.0	Hutchinson	11.0	8.0	12.0
Milton	19.5	5.0	4.0	Lake Winnibigoshish	11.6	14.0	12.0
Monroe	35.0	12.0	7.0	Leech Lake	14.8	16.0	14.0
Monson	15.0	6.0	2.0	Long Prairie	11.0	10.0	13.0
Mount Nonotuck	19.2	10.0	3.0	Maple Plain	19.4	12.0	14.0
New Bedford a	20.5	8.5		Marfield	20.0	23.0	25.0
New Bedford b	17.5	8.0	0.5	Minneapolis (W. B.)	12.4	12.0	16.0
North Billerica	20.0	6.0	3.0	Minneapolis a	15.9	15.0	18.0
Randolph	18.0	3.0	4.0	Minneapolis b	14.0	11.0	10.0
Roberts Dam	18.0			Minneapolis c	12.8	10.0	6.0
Roxbury	21.2	3.0	3.5	Minnesota City	9.5	10.0	5.0
Royalston	12.5		3.5	Moorhead	16.1	16.3	3.6
Salmon b	22.2			Morris	13.0	4.0	12.0
Salisbury	13.5	6.0	3.0	North Branch	19.0	12.0	16.0
Somerset	17.0	4.0	3.5	Park Rapids	8.5		14.0
Springfield Army.	18.5			Pine River	14.0	11.0	12.0
Taunton b	11.0	6.0	2.0	Pokegama Falls	11.9	21.0	18.0
Taunton d	15.5	5.0	3.0	Saint Charles	6.8	10.0	2.0
Wakefield	23.5	7.0	4.0	Saint Paul	11.9	9.9	10.4
Webster	11.5	5.0	4.0	Sandy Lake Dam	17.8	8.5	10.5
Wellesley	11.0		2.5	Sank Center	12.0	11.0	18.0
Westboro	16.0	8.0	2.0	Starbuck	10.0	5.0	12.0
Winchendon	19.0	8.0	6.0	Watahsa	14.2	18.0	12.6
Winthrop	17.2	6.0	2.0	Warren	12.0		
Worcester b	12.0	3.0	2.0	Winona	9.0	14.0	3.0
<i>Michigan.</i>				Worthington	11.0	5.5	5.5
Adrian	16.6	0.0	0.2	<i>Montana.</i>			
Albion	19.0	13.1	1.2	Choteau	10.6	2.0	0.0
Allegan	15.5	0.0	1.0	Cokedale	33.0	0.0	0.0
Alma	18.0	3.0	0.0	Elk Park	0.4	20.0	18.0
Alpena	28.7	12.6	9.1	<i>Nebraska.</i>			
Ann Arbor	15.7	0.0	0.0	Bassett	12.0	T.	3.0
Arbela	11.2	8.0	0.0	Genoa	11.5	0.0	0.0
Ball Mountain	19.8			Gering	10.6		2.0
Bar Lake	28.5	15.0	7.0	<i>Nevada.</i>			
Benton Harbor	18.2	3.0	1.0	Belmont	10.0	2.0	3.5
Benzonia	47.0	23.0	0.0	Edgewood	11.0	6.0	3.0
Berlin	17.5	6.0	T.	Ely	11.0	1.0	2.6
Berrien Springs a	30.5			Empire Ranch	10.5	1.5	5.0
Berrien Springs b	30.0	0.0	3.0	Palmetto	15.0	0.0	7.5
Birmingham	13.0			Stoffel	13.0	6.0	2.0
Boon	24.8	19.0	15.0	Tybo	17.0		

Snowfall of 10 inches or more—Continued.

Table with columns: State and station, Total, 15th, 31st. Rows include New Hampshire, Ohio, Pennsylvania, New Jersey, New Mexico, New York, Rhode Island, South Dakota, Utah, Vermont, West Virginia, Wisconsin, and Wyoming.

Snowfall of 10 inches or more—Continued.

Table with columns: State and station, Total, 15th, 31st. Rows include Wisconsin and Wyoming.

HAIL.

Description of the more severe hailstorms of the month is given under "Local storms." Hail was reported as follows: 3d, South Carolina. 5th, Rhode Island. 10th, Nebraska. 12th, Washington. 13th, Oregon. 14th, California and Utah. 15th, Mississippi and Texas. 20th, Oregon. 22d, California. 23d, Arizona. 24th, California, Iowa, Missouri, and Nebraska. 25th, Pennsylvania. 26th and 27th, California. 29th, Mississippi.

SLEET.

Description of the more severe sleetstorms of the month is given under "Local storms." Sleet was reported as follows: 1st, Idaho, Maine, Montana, Nebraska, New Hampshire, and New York. 2d, Colorado, District of Columbia, Illinois, Indiana, Kansas, Kentucky, Maryland, Missouri, Nebraska, North Carolina, Ohio, Oklahoma, South Dakota, Tennessee, Utah, Virginia, and West Virginia. 3d, Alabama, Connecticut, Illinois, Indiana, Kentucky, Maine, Massachusetts, New Hampshire, New Jersey, New York, North Carolina, Ohio, Oregon, Pennsylvania, and Tennessee. 4th, Connecticut, Delaware, Iowa, Maine, Maryland, Massachusetts, Minnesota, New Jersey, North Carolina, Ohio, South Carolina, South Dakota, and Virginia. 5th, Colorado, Connecticut, Delaware, Illinois, Iowa, Kansas, Maryland, Massachusetts, Minnesota, Missouri, New Jersey, New York, North Carolina, Rhode Island, South Carolina, and Virginia.

6th, Mississippi, Nebraska, and Rhode Island. 7th, Iowa and South Dakota. 8th, Iowa, Minnesota, South Dakota, and Wisconsin. 9th, Illinois, Iowa, Maine, Maryland, Massachusetts, Michigan, Minnesota. New Jersey, New York, Ohio, Pennsylvania, and Wisconsin. 10th, Idaho, Nebraska, and Washington. 11th, Washington and Wisconsin. 12th, Kentucky, Massachusetts, Missouri, New York, Vermont, Washington, and Wisconsin. 13th, Illinois, Minnesota, New York, Ohio, and Washington. 14th, Arizona, Connecticut, Indiana, Iowa, Maryland, Massachusetts, Michigan, Minnesota, Nebraska, Nevada, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Vermont, Virginia, Washington, and Wisconsin. 15th, Connecticut, Indiana, Iowa, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Nebraska, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, South Carolina, Vermont, Washington, and Wisconsin. 16th, Maine, Massachusetts, Michigan, New Hampshire, New York, and Vermont.

17th, Kentucky, Maine, and Massachusetts. 18th, Minnesota, Mississippi, and New Jersey. 19th, Indiana and Maryland. 20th, Washington. 21st, Montana. 22d, California, Maryland, Michigan, Minnesota, Nevada, Utah, Vermont, and Wisconsin. 23d, Arizona, Kentucky, Maine, Nebraska, New Hampshire, New York, South Dakota, Vermont, and Wisconsin. 24th, California, Colorado, Iowa, Minnesota, Missouri, Nebraska, Nevada, South Dakota, and Wisconsin. 25th, Iowa,

Michigan, New Hampshire, New York, Ohio, and Wisconsin. 26th, Nevada and Ohio. 27th, Illinois, Iowa, Kentucky, Minnesota, Missouri, Nebraska, Nevada, and Wisconsin. 28th, Delaware, Maryland, Michigan, New Jersey, New York, Pennsylvania, and Wisconsin. 29th, Nebraska, Ohio, South Dakota, and Utah. 30th, Arkansas, Maryland, New Jersey, New York, Ohio, Oregon, Pennsylvania, South Dakota, and Tennessee. 31st, Alabama, Connecticut, New Jersey, Ohio, Oregon, and Pennsylvania.

FOG.

Few special reports of fog over the Lakes have been received, but the general heavy fogs of December 15, 16, 22, and 23 in the lower lake region seriously interfered with the working of overhead telegraph lines on those dates.

WET AND DRY SEASONS.

The character of the season as to precipitation in its relation to agriculture is shown in the following extracts and reports:

Alabama.—The periods of general rain were 1st to 3d, 6th to 9th, 13th to 16th, 29th to 31st.

Colorado.—Large excess of snow on the mountains, but deficiency of rain at low stations and in the extreme eastern, southern, and southeastern counties.

Florida.—Extensive frosts on the 19th and minor frosts on ten other days; these frosts were beneficial to the orange crop and did but little damage to garden truck and tender vegetation.

Georgia.—Unusually warm and pleasant December with deficiency of rain; the alternate freezing and thawing, accompanied by occasional showers, has rendered the soil moist and in excellent condition for agricultural purposes.

Iowa.—During a considerable portion of the month the larger part of the state was covered with sufficient snow to make good sleighing; at the close of the month the ground was generally bare; winter wheat was well protected up to the 20th or 22d; at the close the ground was very dry without much frost in it and full wheat was doing well.

Kansas.—The state is experiencing a protracted drought, seriously inconveniencing stock men and doing wheat no good, but much spring plowing is being done during this warm, dry weather.

Louisiana.—A mild and pleasant winter month; farm work has progressed favorably; cattle on the prairies in excellent condition and the loss trifling.

Minnesota.—The general precipitation was slightly in excess of the normal and as it was nearly all snowfall the ground has been well protected; the

amount of snow lying on the ground at the end of the month averaged 9.3 for the whole state and was 3 inches more than the normal for that date.

Mississippi.—The average rainfall has been 4.2 for the whole state against a normal of 5.1.

Missouri.—The precipitation for the month throughout the state was very light; at the close of the month no snow remained on the ground except at a few places in the northwest section. It has been a good month for business but not so favorable for wheat and grass, owing to a scarcity of water for some months past; many wells and springs are failing. Wheat and fruit are in good condition, but backward and would do better with more snow or rain. The frost was entirely out of the ground at the end of the month. The great fluctuations of temperature seem to have produced much sickness from "la grippe." In the southern and central portions plowing has progressed finely, but there is a great lack of water for the stock.

Nebraska.—There has been a decided deficiency of precipitation, the rain and snow having evaporated or melted without wetting the ground to any depth and the ground is too dry to freeze hard; the greater portion of the grain that has been sown this fall has not sprouted yet.

New England.—The average precipitation for the whole state is 2.9, and that of 23 stations having long records is 4.7 as compared with the normal of 3.6 for these stations. The maximum snowfall for the month has been 49 inches in northern Maine; considerable damage was done to fruit trees in eastern Massachusetts by the ice and sleet storm of December 3.

New Jersey.—The weather has generally been favorable for outdoor work, notably plowing and pruning; winter rye is in good condition.

New Mexico.—Precipitation was below the normal and was heaviest in the northern half of the territory.

Ohio.—Precipitation was in excess mostly in the form of snow; in the northern and middle sections winter wheat is fairly protected; in the southern section it is in a fair condition the freezing and thawing apparently not having had a very bad effect.

Oklahoma.—Precipitation below the normal, the weather remarkably warm and delightful; general increase in the acreage of wheat and other crops.

South Carolina.—The rainy periods were: 1st to 5th; 16th; 29th to 31st; giving an excess on the coast, but deficiency in the interior; the month was favorable for farm work and the fall crops were doing well.

Tennessee.—Precipitation slightly below the normal; fall crops healthy and growing well.

Texas.—On December 16 Capt. Joseph F. Nash reports that in many localities in western Texas no rain has fallen for five months, and consequently there is no grass, the range in many sections having been completely eaten up. Range cattle have been reduced to starvation.

Wisconsin.—Temperature below the average and precipitation considerably above the normal; the ground was covered with snow up to the 20th, but at the end of the month was bare in the southern counties; during the severe cold weather, however, the ground was amply protected and winter grains are probably in good condition as there was little or no frost in the ground; no scarcity of feed, and stock is doing well.

WIND.

The prevailing winds in December, 1893, viz., those that were recorded most frequently at Weather Bureau stations, are shown on Chart II by arrows flying with the wind. The summary of State Weather Service reports also shows the prevailing winds as recorded at voluntary stations; according to these reports northwest winds prevailed in Illinois, Iowa, Nebraska, Wyoming, Wisconsin, Minnesota, North and South Dakota, New England, New Jersey, Georgia, and Florida; southwesterly winds in the Pacific coast states, Rocky Mountain regions, the Southwest, and in Missouri, Kentucky, Indiana, Ohio, Michigan, New York, Maryland, Virginia, North and South Carolina.

HIGH WINDS.

Wind velocities of 50 miles, or more, per hour were reported at regular stations of the Weather Bureau as follows:

Stations.	Date.	Velocity.	Direction.	Stations.	Date.	Velocity.	Direction.
Abilene, Tex.....	2	50	nw.	Cheyenne, Wyo.....	27	50	w.
Amarillo, Tex.....	2	64	sw.	Chicago, Ill.....	15	53	sw.
Do.....	24	56	n.	Do.....	18	51	nw.
Bismarck, N. Dak.....	4	56	nw.	Colorado Springs, Colo.....	3	52	nw.
Block Island, R. I.....	5	52	ne.	Davenport, Iowa.....	18	52	sw.
Buffalo, N. Y.....	10	55	w.	Dodge City, Kans.....	24	52	sw.
Do.....	16	58	w.	Fort Canby, Wash.....	30	54	s.

Wind velocities of 50 miles, or more—Continued.

Stations.	Date.	Velocity.	Direction.	Stations.	Date.	Velocity.	Direction.
Fort Canby, Wash.....	10	54	sw.	Pikes Peak, Colo.....	11	86	w.
Do.....	12	56	s.	Do.....	13	87	w.
Do.....	15	56	s.	Do.....	14	80	w.
Do.....	20	54	s.	Do.....	23	86	w.
Do.....	21	56	s.	Shreveport, La.....	15	52	w.
Do.....	31	54	s.	Tatoosh Island, Wash.....	15	51	s.
Galveston, Tex.....	16	50	n.	Do.....	21	50	sw.
Hatteras, N. C.....	5	56	nw.	Woods Holl, Mass.....	4	54	sw.
Kittyhawk, N. C.....	5	56	n.	Do.....	5	57	ne.
Lexington, Ky.....	15	50	sw.	Do.....	6	51	ne.
Nantucket, Mass.....	5	52	ne.	Do.....	11	53	w.
Pikes Peak, Colo.....	10	106	sw.	Do.....	16	50	s.
Do.....	10	88	w.	Do.....	21	55	w.

LOCAL STORMS.

2d.—During a thunderstorm, with high wind, at Water Valley, Miss., small houses and trees were blown down. A heavy snowstorm began at Chicago, Ill., at 7.10 a. m., 2d, and continued until 10.30 a. m., 3d, during which time 8 inches of snow fell, being the heaviest 24-hour snowfall on record in December at that station. Railway and street car traffic was delayed, and some damage was done to buildings at the Columbian Exposition Grounds. During a blinding snowstorm and heavy gale on Lake Michigan, 7 miles from Mich-